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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HA, DAC V

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/785,162

Applicant(s)

ARIMA, MASAKI

Examiner

Dac V. Ha

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed on 07/16/04.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by Rocco Jr. (US 5,642,386) (hereinafter Rocco).

Regarding claim 1, Rocco discloses the followings:

“a clock generating circuit for generating a clock whose frequency is synchronous with a frequency of a data transmission rate of a received data; (Fig. 1, element 11; col. 4, lines 47-48)

“a delay circuit for delaying said received data to generate a delayed data;” (Fig. 1, element 25; col. 5, lines 45-52)

“a first sampling circuit for sampling said received data in response to at least one of leading and trailing edges of said clock and outputting a received data sampling value;” (Fig. 1, element 27₀; col. 5, lines 60-61)

“a second sampling circuit for sampling said delayed data in response to at least one of leading and trailing edges of said clock and outputting a delayed data sampling value;” (Fig. 1, element 27₁)

“received data judging means for judging a received data value based on said received data sampling value and said delayed data sampling value,

wherein said received data judging means comprises:

first judging means for judging the received data value primarily based on either one of said received data sampling value and said delayed data sampling value; and

second judging means for judging the received data value secondarily based on the other of said received data sampling value and said delayed data sampling value when said first judging means fails to judge the received data value” (Fig. 1, elements 23, 24; col. 5, lines 62-65; col. 6, line 60 to col. 7, line 43).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2, 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocco.

Regarding claim 2, Rocco teaches all the claimed subject matter in claim 2, as stated above. Rocco also teaches “said clock generating circuit is for generating a clock whose frequency is substantially identical with the frequency of the data transmission rate of said received data;” in Col. 4, lines 47-48. Rocco further teaches the data is captured over one full clock period defined by the two transitions of the data

Art Unit: 2634

stream. Therefore, sampling the data in response to the transitions of the clock would have been obvious to one skilled in the art. Thus, the claimed subject matter in claim 2 “said first sampling circuit is for sampling said received data in response to both of leading and trailing edges of said clock and outputting received data sampling values; and said second sampling circuit is for sampling said delayed data in response to both of leading and trailing edges of said clock and outputting delayed data sampling value” would have been optional to one skilled in the art.

Regarding claim 3, similarly to the analogy of claim 2 above. Further, the claim subject matter “said clock generating circuit is for generating a clock whose frequency is approximately two times the frequency of the data transmission rate of said received data; said first sampling circuit is for sampling said received data in response to one of leading and trailing edges of said clock and outputting the received data sampling value; and said second sampling circuit is for sampling said delayed data in response to one of leading and trailing edges of said clock and outputting delayed data sampling value” would have been a design spec for one skilled in the art.

6. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocco in view of Lee et al. (US 6,266,799) (hereinafter Lee).

Regarding claim 4, similarly to that of claim 1, except instead of delaying the received data, claim 4 recites delaying the clock signal. However, in the same field of endeavor, such alternate is known and disclosed by Lee in Figure 4A; Col. 6, line 44 to col. 7, line 3. Therefore, claim 4 would have been obvious to one skilled in the art over Rocco in view of Lee as design alternative.

Regarding claims 5, 6, see claims 2, 3 above, respectively.

Response to Arguments

7. Applicant's arguments filed on 07/16/04 have been fully considered but they are not persuasive.

In the REMARKS, page 3 of the amendment filed on 07/16/04, applicants have argued "there is no description with respect to the first judging means and the second judging means constituting the receive data judging means of the present invention". In Rocco, the combination of elements 23, 24 of Fig. 1 teaches the "received data judging means" including performance of the function of the "first judging means" and the "second judging means", which constitute the "received data judging means".

Page 3 of the REMARKS, applicants have argued "According to the present invention defined in independent claim 1 and 4, the first judging means judges the received data value primarily based on either one of said received data sampling value and said delayed data sampling value. The second judging means judges the received data value secondarily based on the other of said received data sampling value and said delayed data sampling value when said first judging means fails to judge the received data value. Rocco does not teach a combination of such first (i.e. primary) and second (i.e. secondary) judging means or devices which are complementarily arranged for judging a received data value". In Rocco, the disclosed circuit is to "judge" the received data supplied 10 of Fig. 1 to produce an output data at 23 of Fig. 1. Further, the circuit disclosed by Rocco operates in two modes. After initializing using some predetermined initial setting (col. 11, lines 35-36), the circuit tracks the incoming signal

Art Unit: 2634

(col. 13, line 13 to col. 15, line 33). In such manner, the circuit of Rocco “judges” the received data “primarily” based on the “received data sampling value” (Fig. 1, element 27₀) and/or the “delayed data sampling value” (Fig. 1, element 27₁). When there is a fault occurrence, the circuit would switch to recovery mode of operation, where the received data is judged “secondarily” based on the “received data sampling value” (Fig. 1, element 27₀) and/or the “delayed data sampling value” (Fig. 1, element 27₁) (col. 9, line 54 to col. 11, line 33). Therefore, Rocco implicitly teaches “received data judging means for judging a received data value based on said received data sampling value and said delayed data sampling value,

wherein said received data judging means comprises:

first judging means for judging the received data value primarily based on either one of said received data sampling value and said delayed data sampling value; and

second judging means for judging the received data value secondarily based on the other of said received data sampling value and said delayed data sampling value when said first judging means fails to judge the received data value”.

Page 3 of the REMARKS, applicants have also argued “With respect to dependent claims 2, 3, 5 and 6, Rocco does not teach using both rise and fall edges (i.e. leading and falling edges) of the clock. With respect to dependent claims 3 and 6, the reference is silent as to the use of a clock frequency that is approximately twice the frequency of the data transmission rate of the received data”. As indicated above, Rocco teaches that the data could have been captured over one full clock period defined by the two transitions of the data stream, thus would have utilized both “rise and

Art Unit: 2634

fall edges". Also, it is true that "the reference is silent as to the use of a clock frequency that is approximately twice the frequency of the data transmission rate of the received data", however, as stated above, the selection of the frequency of the clock for synchronously controlling operation of various stages (i.e. Fig. 3, element 44) would have been specific to each application. Thus, such claimed subject matter would have been obvious to a person of ordinary skill in the art in view of Rocco.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-273-3040. The examiner can normally be reached on 5/4.

Art Unit: 2634

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a horizontal line underneath it.

Dac V. Ha
Examiner
Art Unit 2634